PATENT

In the United States Patent and Trademark Office

Applicant: Schuler et al.
Applicant's Ref: IMM043E
Application No: Unassigned
Filed: February 7, 2002
Title: Interface Device with Tactile Responsiveness (as amended)

Examiner: Unassigned
Group Art Unit: Unassigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please amend the above identified patent application as follows before examination of the application:

In the Title:

Please delete the Title and replace with: -- Interface Device with Tactile Responsiveness --.

CLEAN VERSION OF AMENDMENTS

In the Specification:

Page 1, insert before the first paragraph:

This is a continuation of of pending prior U.S. Application No. 09/253,392, filed on February 19, 1999, which is a continuation of U.S. Patent Application No. 08/585,198, filed January 11, 1996, issued as Patent No. 5,889,670, incorporated herein by reference, which is a continuation-in-part of U.S. Patent Application No. 08/434,176, filed May 3, 1995, issued as Patent No. 5,559,412, which is a continuation of U.S. Patent Application no. 08/076,344, filed June 11, 1993, issued as U.S. Patent 5,414,337, which is a continuation-in-part of U.S. Patent Application No. 07/783,635, filed October 14, 1991, issued as Patent No. 5,220,260.

In the Claims:

A clean copy of the claims is presented below. No marked-up version of the claims is provided since all of the claims are new.

Please cancel claims 1-18 without prejudice.

Please add the following claims:

19. (new) A tactile feedback interface device for use with a host computer, said interface device providing selectively programmable tactile feedback, said interface device comprising:

a moveable member capable of being physically contacted by a user and moved by said user to different positions;

a motor coupled to said interface device operative to output a force such that modulating said force produces a tactile sensation felt by said user when operating said interface device;

local data storage in which torque data from said host computer can be stored, said torque data used in controlling said force to produce said tactile sensation generated by said interface device;

a local controller in communication with said host computer via a communication link and in communication with said local data storage and said motor, said host computer running a host software application, said controller controlling said motor in accordance with requirements

of said host software application, wherein said controller accesses said torque data from said data storage and uses said torque data to influence control of said motor so as to produce said tactile sensation in accordance with said requirements of said host software application; and

a sensor coupled to said interface device and operative to provide position information related to said different positions of said member, wherein said position information is provided to said controller.

20. (new) A tactile feedback interface device as recited in claim 19 wherein said motor is a first motor, and further comprising providing a second motor in said interface device such that said controller controls a force output by both said first and second motors, said first and second motors working in conjunction to produce said tactile sensation.

21. (new) A tactile feedback interface device as recited in claim 19 wherein multiple torque values are received from said host computer and stored simultaneously in said local memory.

22. (new) A tactile feedback interface device as recited in claim 21 wherein each set of said torque values describes a different tactile sensation.

23. (new) A tactile feedback interface device as recited in claim 19 wherein said local data storage is external to said tactile controller.

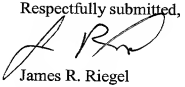
24. (new) A tactile feedback interface device as recited in claim 19 wherein said local data storage is resident on said tactile controller.

REMARKS

Claims 19-24 are pending in this application. Claims 1-18 have been cancelled, and claims 19-24 have been added by this Preliminary Amendment.

Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,



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